

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





aTD224  
.I2I33

United States  
Department of  
Agriculture

Soil  
Conservation  
Service



# Idaho

## Basin Outlook Report

### January 1, 1994





# Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:  
Your local Soil Conservation Service Office

or  
Soil Conservation Service  
Snow Surveys  
3244 Elder Street, Room 124  
Boise, ID 83705-4711  
(208) 334-1614

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

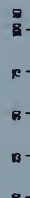
Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 726-5881 (voice) or (202) 726-7808 (TDD).

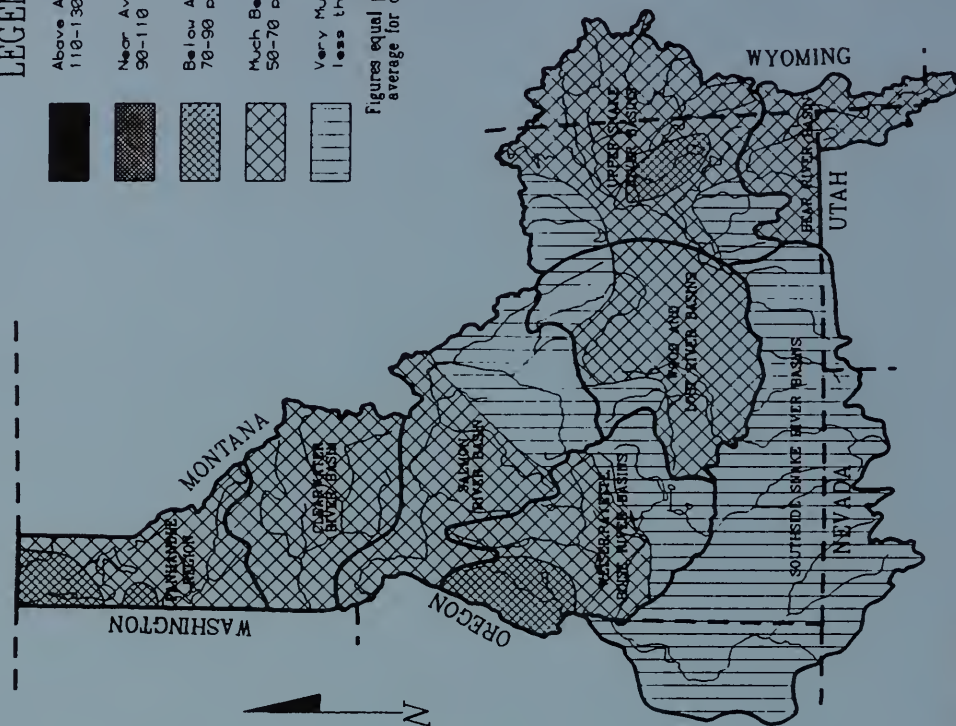
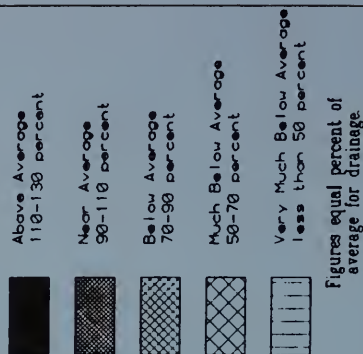
To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 726-7327 (voice) or (202) 726-1127 (TDD). USDA is an equal employment opportunity employer.

## IDAHO MOUNTAIN SNOWPACK

JANUARY 1, 1994



### LEGEND



SOIL CONSERVATION SERVICE  
U.S. DEPARTMENT OF AGRICULTURE

# **IDAHO WATER SUPPLY OUTLOOK REPORT**

***JANUARY 1, 1994***

## **SUMMARY**

Winter snows were late in coming to Idaho this year! Consequently, snowpacks are well below normal throughout the state. Streamflow forecasts reflect the low snowpacks and are expected to be below normal. The good news is reservoir storage. Last year's precipitation left Idaho with some of the best carryover storage of the last six years. This may be an important buffer for the state's water supply if the current dry weather patterns continue. Was last year the end of the drought or just a brief respite? Stay tuned to the Idaho Basin Outlook Report for the latest information as the season progresses.

## **SNOWPACK**

Fall 1993 was very dry. Snowfall got off to one of the latest starts in the last 12 years in many areas. As a result, snowpacks are well below normal around the state, ranging from only 40% of average in some southern basins to 70% of average in the north. The upper Snake basin in eastern Idaho and western Wyoming reports 50-70% of average snowpack. With more than half of the snow accumulation season yet to come, there is still time to make up this deficit. Heavy storms in early January have improved snowpacks slightly since the January 1 benchmark measurements. Above average snowfall will be needed during the next three months to ensure adequate water supplies for all water users.

## **PRECIPITATION**

After a cool, wet summer, Idaho's weather turned warm and dry in September which continued into the fall and early winter. October's precipitation was below normal in most areas of the state. The west central mountains reported the least precipitation in October with only 50-60% of average. Several strong Pacific storm systems in late November and early December brought the first major snowfall to Idaho's mountains, but monthly precipitation values were well below normal for both months. Year to date mountain precipitation values range from 60% of average in northern Idaho to only 40-50% of average in the central and southern mountains.



## **RESERVOIRS**

Idaho reservoir storage is the bright spot in an otherwise gloomy water supply picture for 1994. Last year's productive runoff season left more water than normal in most reservoirs at the end of the irrigation season. The Payette, Boise, and upper Snake basins are all reporting over 110% of average storage for this time of year. This storage could provide an important buffer for this year's water supply if the current dry trend continues.

Note: SCS reports reservoir information in terms of usable volumes, which includes both active, inactive, and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in the back of this report.

## **STREAMFLOW**

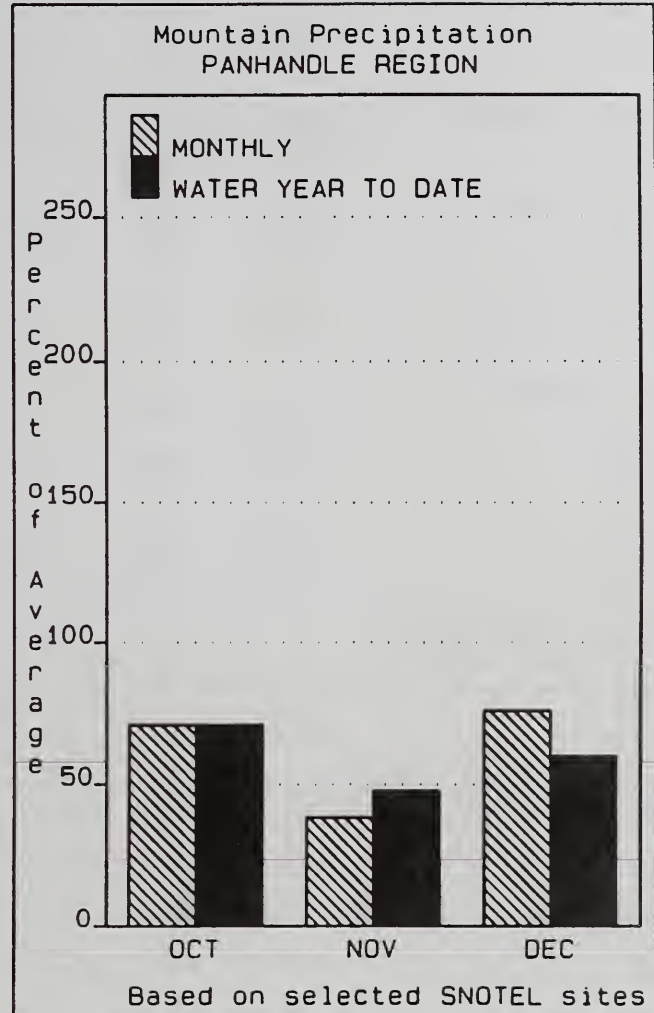
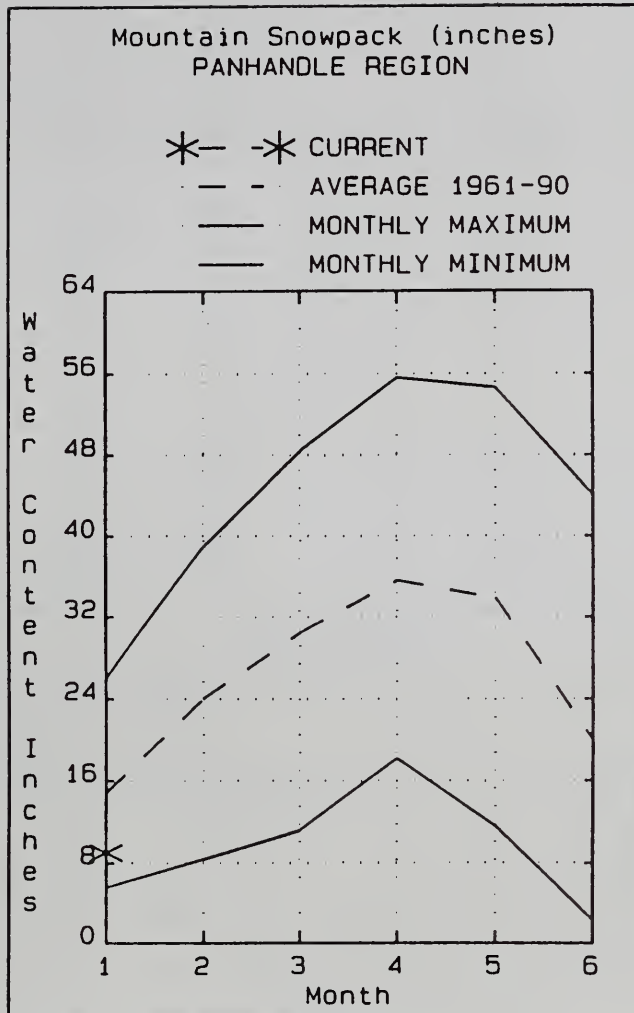
Streamflow volumes were below normal in October, November and December, a result of below normal precipitation this fall. Streamflow volumes were around 70-80% of average across the state, except in the Clearwater Basin which had about half of normal. Streamflow forecasts for this summer reflect the low snowpack levels and call for below normal to well below normal volumes across the state. Most streams are forecasted in the 60-80% of average range, except in the Owyhee Basin and mainstem of the Snake River which are forecasted for around half of average.

## **RECREATION OUTLOOK**

A slow start to Idaho's mountain snowpack could lead to lower than normal streamflows next summer if the current dry trend continues. All areas in the state are expecting below normal runoff next summer based on current conditions. Typically, low snowpacks mean earlier and lower peak flows and a shorter high water period in the spring. Reservoirs may also be drawn down earlier and lower than normal as these reserves are tapped to meet irrigation and other water supply demands. Because we are less than halfway through the snow season, the current outlook could improve if precipitation conditions change. Recreational water users should monitor snowpacks in their area of interest over the next few months as the season progresses.

## PANHANDLE REGION

JANUARY 1, 1994



### WATER SUPPLY OUTLOOK

Snowpacks in Idaho's Panhandle region are well below normal ranging from about 60 to 80% of average. Streamflow forecasts mirror the low snowpack conditions, and range from 70 to 80% of average. Reservoir storage is below normal in Coeur d'Alene and Pend Oreille Lakes but above normal in Priest Lake. With almost three months of winter left, conditions could improve before the start of the runoff season. Water users should monitor snowpack conditions carefully over the next few months for updated information.

PANHANDLE REGION  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
KOOTENAI at Leonia (1,2)	APR-JUN	2890	4200	4790	84	5380	6690	5701
	APR-JUL	3650	5280	6020	84	6760	8390	7199
	APR-SEP	4200	6070	6920	84	7770	9640	8275
CLARK FK at Whitehorse Rpds (1,2)	APR-JUN	2720	5620	6930	69	8240	11100	10050
	APR-JUL	3160	6550	8090	69	9630	13000	11730
	APR-SEP	3500	7240	8930	69	10600	14400	12910
PEND OREILLE LAKE inflow (1,2)	APR-JUN	2780	6270	7860	69	9450	12900	11390
	APR-JUL	3690	7390	9070	69	10800	14500	13150
	APR-SEP	4080	8130	9970	69	11800	15900	14370
PRIEST nr Priest River (1,2)	APR-JUL	335	550	645	79	740	955	814
	APR-SEP	360	585	690	79	795	1020	868
COEUR D'ALENE AT ENAVILLE	APR-JUL	325	480	585	76	690	845	770
	APR-SEP	200	505	615	76	725	1030	809
ST.JOE at Calder	APR-JUL	605	785	910	78	1030	1210	1169
	APR-SEP	545	840	965	78	1090	1390	1237
SPOKANE near Post Falls	APR-JUL	1180	1650	1970	75	2290	2760	2633
	APR-SEP	1240	1720	2040	75	2360	2840	2730

PANHANDLE REGION Reservoir Storage (1000 AF) - End of December					PANHANDLE REGION Watershed Snowpack Analysis - January 1, 1994			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HUNGRY HORSE	3451.0	1535.0	1438.0	2586.0	Kootenai ab Bonners Ferry	23	105	76
FLATHEAD LAKE	1791.0	1070.0	1021.0	1305.0	Moyie River	2	84	51
NOXON RAPIDS	335.0	311.3	311.2	317.1	Clark Fork River	45	68	66
PEND OREILLE	1561.3	536.5	484.1	744.9	Priest River	4	79	79
COEUR D'ALENE	238.5	60.5	44.5	130.5	Pend Oreille River	61	69	68
PRIEST LAKE	119.3	59.0	51.8	54.8	Rathdrum Creek	5	87	112
					Hayden Lake	0	0	0
					Coeur d'Alene River	5	55	64
					St. Joe River	2	54	58
					Spokane River	12	66	77
					Palouse River	1	52	71

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

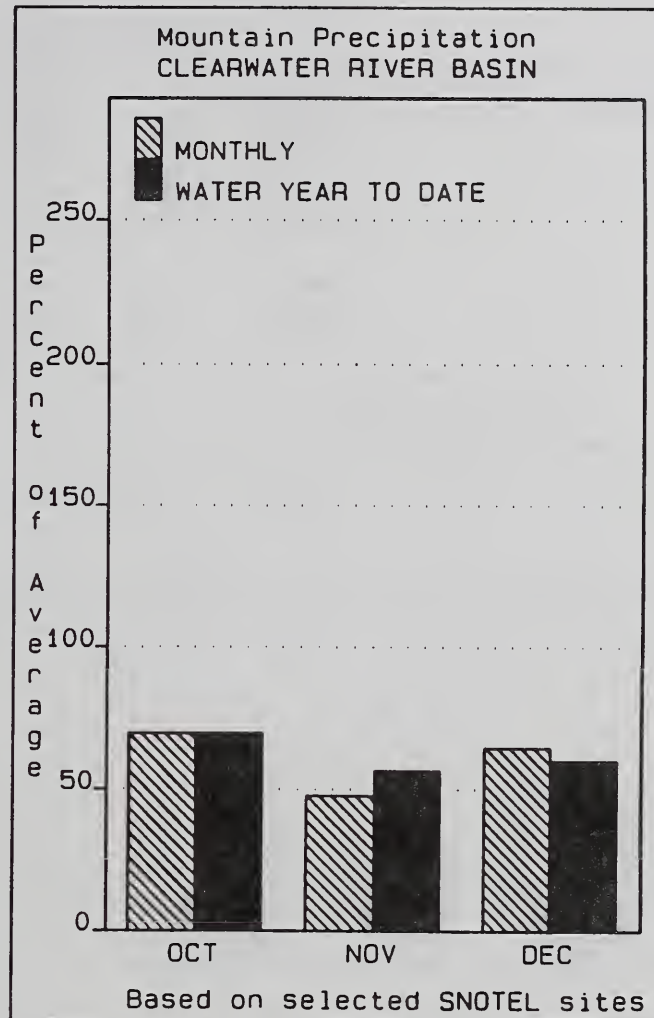
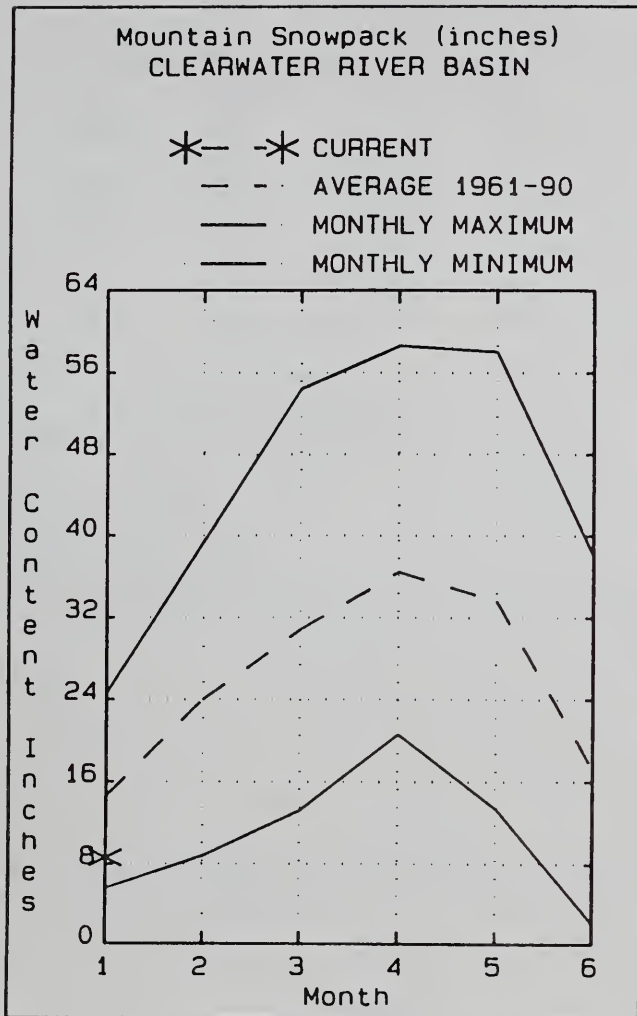
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.



# CLEARWATER RIVER BASIN

JANUARY 1, 1994



## WATER SUPPLY OUTLOOK

Snowpacks are well below normal in the Clearwater basin, ranging from 57% of average in the NF Clearwater basin to 67% in the Selway basin. Streamflow forecasts reflect the low snowpack conditions with projected flows in the 70 to 75% of average range. Dworshak reservoir is reporting essentially normal storage for this time of year, with 2,502,700 acre-feet of storage. With over half of the winter accumulation season remaining, the water supply outlook could improve if weather patterns become significantly wetter in the next few months. Water users should monitor snowpack conditions carefully over the next few months for updated information.

CLEARWATER RIVER BASIN  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====				10% (1000AF)		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)			30% (1000AF)	
=====		=====		=====		=====		=====
DWORSHAK RESERVOIR Inflow	APR-JUL	755	1690	2000	74	2310	3230	2692
	APR-SEP	1320	1800	2120	74	2440	2920	2866
CLEARWATER at Orofino (1)	APR-JUL	1070	2590	3280	70	3970	5490	4718
	APR-SEP	1130	2730	3460	70	4190	5790	4976
CLEARWATER at Spalding (1,2)	APR-JUL	1750	4320	5490	72	6660	9230	7618
	APR-SEP	1840	4560	5800	72	7040	9760	8052

CLEARWATER RIVER BASIN Reservoir Storage (1000 AF) - End of December					CLEARWATER RIVER BASIN Watershed Snowpack Analysis - January 1, 1994			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DWORSHAK	3459.0	2502.7	2627.0	2431.0	North Fork Clearwater	11	54	57
					Lochsa River	4	66	64
					Selway River	5	62	67
					Clearwater Basin Total	19	56	60

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

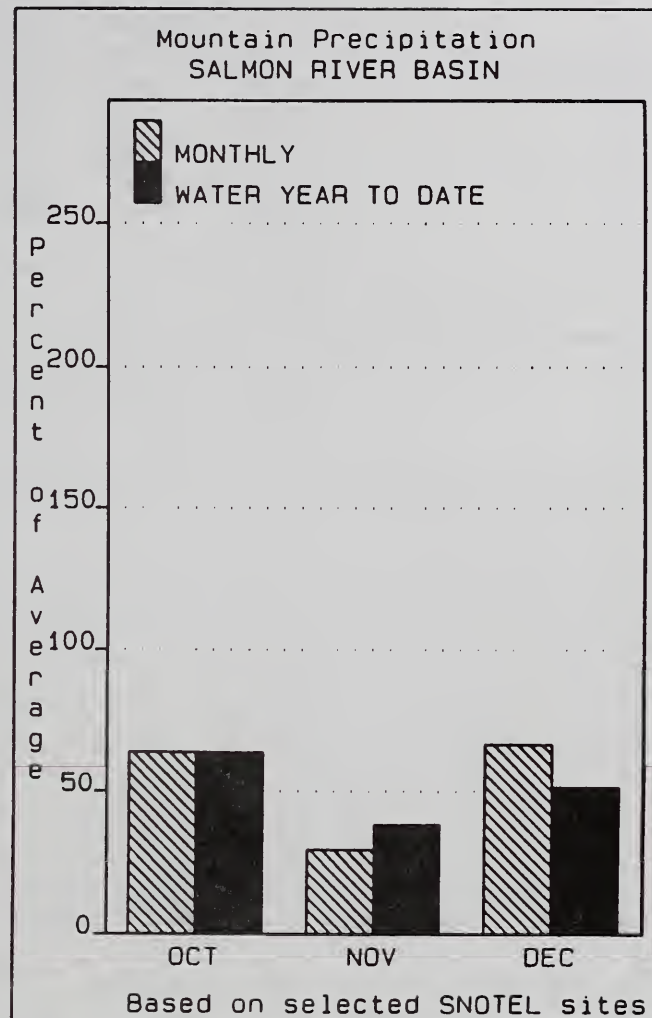
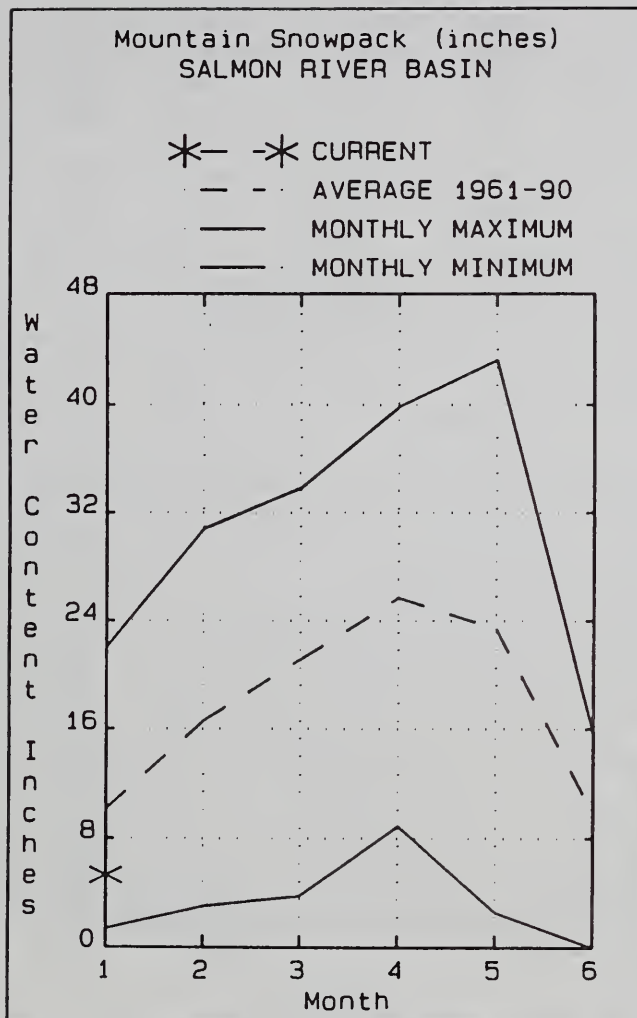
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
 (2) - The value is natural flow - actual flow may be affected by upstream water management.



# SALMON RIVER BASIN

JANUARY 1, 1994



## WATER SUPPLY OUTLOOK

Snowpacks are below normal in the Salmon River basin as a result of the late onset of snowfall and a general lack of storms in the state. Snowpacks are currently only 45 to 65% of normal across the basin. As a result, streamflow forecasts are calling for 72% of average flow for the Salmon River at Salmon and Salmon River near Whitebird. With over half of the winter yet to come, snowpack conditions could improve if the current dry trend reverses. Water users should monitor conditions carefully over the next few months.

SALMON RIVER BASIN  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
SALMON at Salmon (1)	APR-JUL	184	485	625	72	765	1070	869
	APR-SEP	215	575	735	72	895	1250	1019
SALMON at White Bird (1)	APR-JUL	1960	3580	4310	72	5040	6660	5956
	APR-SEP	2180	3970	4780	72	5590	7380	6602

SALMON RIVER BASIN Reservoir Storage (1000 AF) - End of December					SALMON RIVER BASIN Watershed Snowpack Analysis - January 1, 1994			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Salmon River ab Salmon	8	45	44
					Lemhi River	4	57	49
					Middle Fork Salmon River	3	51	50
					South Fork Salmon River	3	48	54
					Little Salmon River	4	55	66
					Salmon Basin Total	23	51	53

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

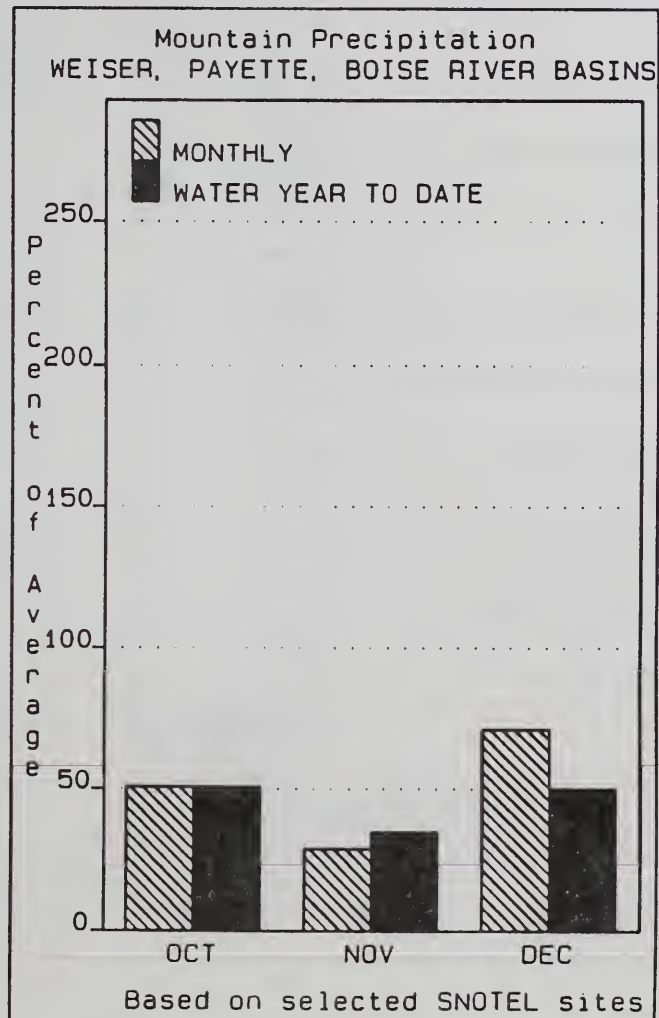
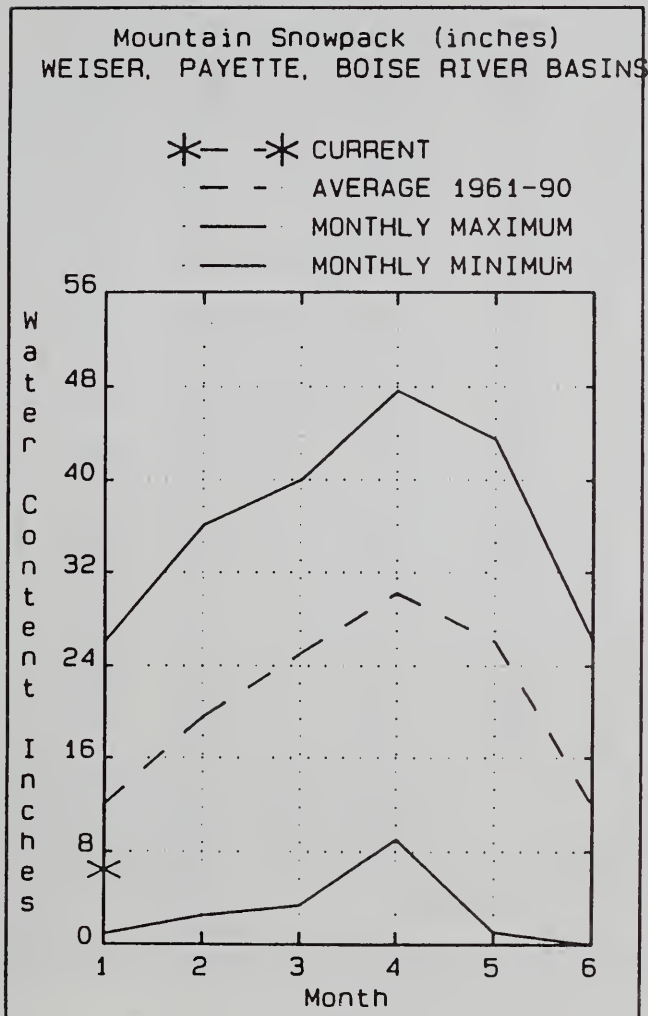
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.



# WEISER, PAYETTE, BOISE RIVER BASINS

JANUARY 1, 1994



## WATER SUPPLY OUTLOOK

Snowpacks in Idaho's west central mountains are well below normal, due to the late onset of snowfall and a persistent ridge of high pressure which blocked many incoming Pacific storms. Snowpacks currently range from 46% of average in the SF Boise basin to 73% in the Weiser. All streamflow forecasts call for well below normal runoff for the coming spring and summer. Precipitation during October, November, and December was only about half of normal. On a bright note, reservoir storage in the Boise and Payette basins is above normal for this time of year. This could be an important buffer for the coming season's water supply if the current dry trend continues. Water users should monitor snowpack conditions carefully over the next few months, as conditions could improve with over half of the winter yet to come.

WEISER, PAYETTE, BOISE RIVER BASINS  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
WEISER nr Weiser (1)	APR-JUL	6.0	174	250	65	325	495	386
	APR-SEP	9.0	188	270	65	350	530	415
SF PAYETTE at Lowman	APR-JUL	143	230	285	66	345	425	432
	APR-SEP	178	270	330	68	390	485	488
DEADWOOD RESERVOIR INFLOW	APR-JUL	32	69	84	62	99	135	135
	APR-SEP	51	74	89	62	104	127	143
NF PAYETTE nr Cascade	APR-JUL	190	290	355	72	420	520	496
	APR-SEP	187	315	385	72	455	585	533
NF PAYETTE nr Banks	APR-JUL	210	345	435	72	525	660	607
	APR-SEP	235	380	475	69	570	715	690
PAYETTE RIVER NEAR HORSESHOE BEND	APR-JUL	560	870	1084	67	1300	1610	1618
	APR-SEP	475	945	1170	67	1390	1880	1755
BOISE near Twin Springs	APR-JUL	280	395	475	75	555	670	631
	APR-SEP	300	420	500	73	580	700	686
SF BOISE at Anderson Rnch Dm (1,2)	APR-JUL	185	300	365	67	430	545	544
	APR-SEP	157	310	378	65	445	600	582
MORES CK nr Arrowrock Dam	APR-JUL	38	61	77	60	93	116	129
	APR-SEP	42	65	81	60	97	120	134
BOISE nr Boise (1,2)	APR-JUN	435	745	885	70	1030	1340	1264
	APR-JUL	385	825	990	70	1160	1590	1421
	APR-SEP	520	900	1075	70	1250	1630	1535

WEISER, PAYETTE, BOISE RIVER BASINS  
Reservoir Storage (1000 AF) - End of December

WEISER, PAYETTE, BOISE RIVER BASINS  
Watershed Snowpack Analysis - January 1, 1994

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MANN CREEK	11.1	3.1	0.8	4.2	Mann Creek	1	57	77
CASCADE	703.2	453.5	354.4	419.7	Weiser River	3	58	73
DEADWOOD	161.9	100.5	49.7	73.7	North Fork Payette	7	54	68
ANDERSON RANCH	464.2	355.3	21.6	319.9	South Fork Payette	4	51	51
ARROWROCK	286.6	212.3	101.9	193.8	Payette Basin Total	12	53	62
LUCKY PEAK	293.2	104.4	49.8	94.5	Middle & North Fork Boise	7	46	49
LAKE LOWELL (DEER FLAT)	177.1	45.6	42.9	126.0	South Fork Boise River	7	42	46
					Mores Creek	4	47	60
					Boise Basin Total	14	45	51
					Canyon Creek	1	37	58

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

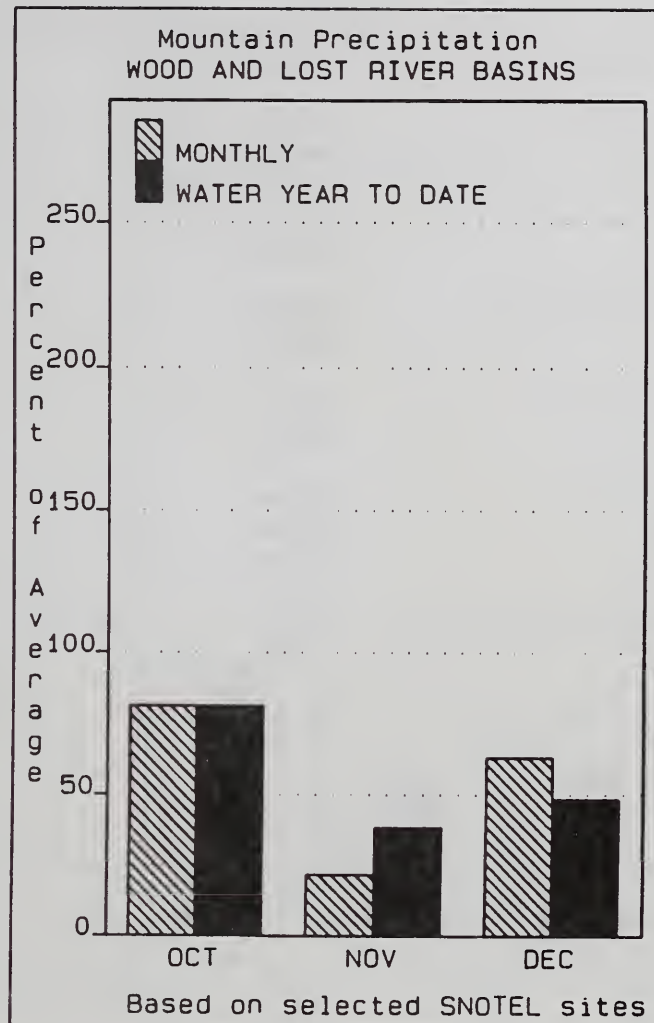
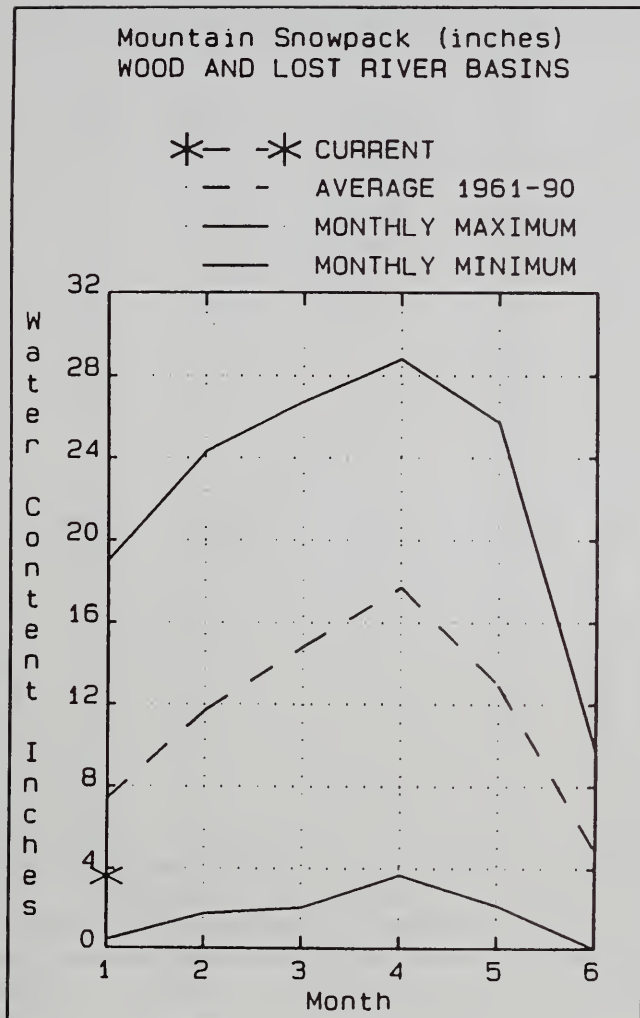
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.



## WOOD and LOST RIVER BASINS

JANUARY 1, 1994



### WATER SUPPLY OUTLOOK

Snowpacks in the Wood and Lost River basins are well below normal, with the Big Wood reporting less than half of its normal snowpack for this time of year. Streamflow forecasts for the area call for well below normal runoff, ranging from 57% of average for Big Wood River below Magic Dam to 80% for the Big Lost River at Howell. Magic Reservoir is almost half full and Little Wood Reservoir is 68% of capacity. Last year at this time Magic was only five percent full and Little Wood was one-quarter full. This carryover storage could provide an important buffer to short surface runoff supplies if the current dry trend continues. Water users should monitor snowpack conditions carefully over the next few months. With over half the winter yet to come, conditions could improve if weather patterns become wetter.

WOOD AND LOST RIVER BASINS  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BIG WOOD at Hailey	APR-SEP	17.0		169	59		325	286
BIG WOOD nr Bellevue	APR-JUL	9.0	63	102	56	142	200	183
	APR-SEP	10.0	70	110	56	150	210	197
CAMAS CREEK near Blaine	APR-JUL	8.0	42	65	64	88	122	102
	APR-SEP	8.0	42	65	63	88	122	103
BIG WOOD bl Magic Dam (2)	APR-JUL	27	112	170	58	230	315	294
	APR-SEP	30	117	175	57	235	385	309
LITTLE WOOD nr Carey	APR-JUL	16.0	43	62	67	81	108	92
	APR-SEP	24	46	65	66	84	106	99
BIG LOST R at Howell	APR-JUN	61	92	113	80	134	166	141
	APR-JUL	69	111	140	77	169	210	181
	APR-SEP	83	129	160	78	191	235	206
BIG LOST bl Mackay Reservoir (2)	APR-JUL	51	83	105	70	127	159	150
	APR-SEP	64	107	130	71	153	193	182
LITTLE LOST below Wet Creek	APR-JUL	14.0	19.0	23	74	27	32	31
	APR-SEP	18.0	25	29	74	34	40	39
LITTLE LOST nr Howe	APR-JUL	17.0	22	24	74	27	31	33
	APR-SEP	23	28	32	74	36	41	43

WOOD AND LOST RIVER BASINS  
Reservoir Storage (1000 AF) - End of December

WOOD AND LOST RIVER BASINS  
Watershed Snowpack Analysis - January 1, 1994

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MAGIC	191.5	78.0	9.9	89.0	Big Wood ab Magic	8	47	45
LITTLE WOOD	30.0	20.3	7.4	13.5	Camas Creek	3	44	57
MACKAY	44.4	23.4	15.5	26.4	Big Wood Basin Total	11	47	47
					Little Wood River	3	49	52
					Fish Creek	0	0	0
					Big Lost River	5	47	51
					Little Lost River	3	38	43

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

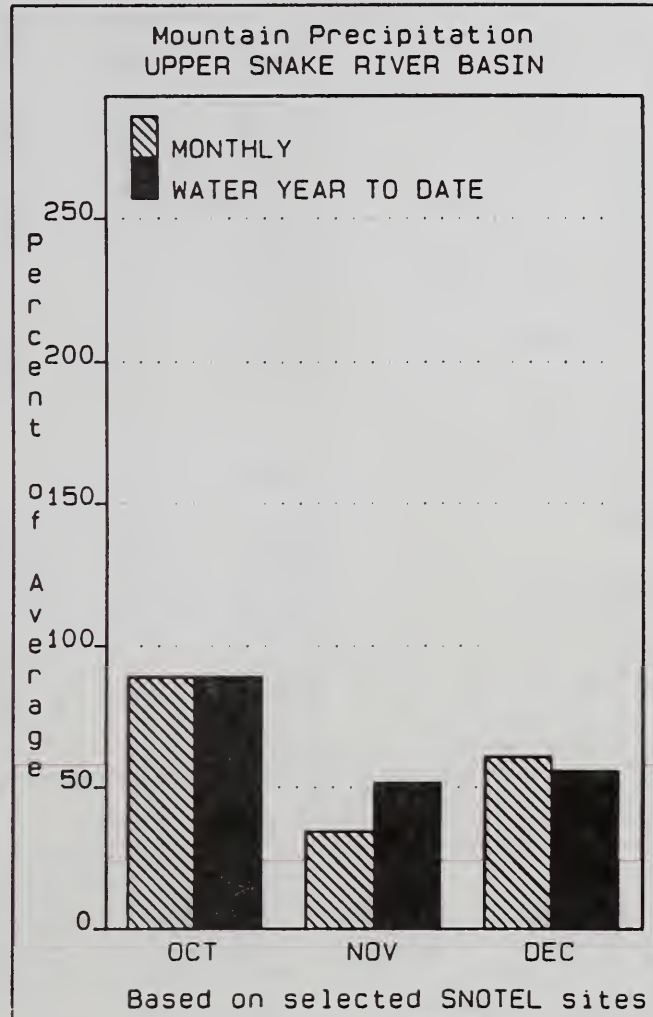
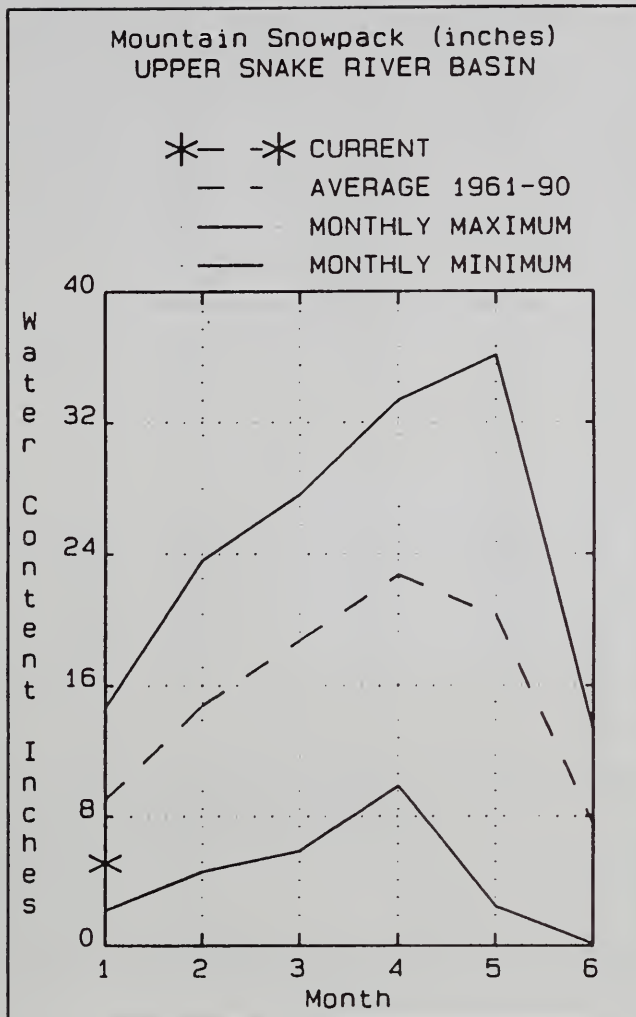
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
 (2) - The value is natural flow - actual flow may be affected by upstream water management.



# UPPER SNAKE RIVER BASIN

JANUARY 1, 1994



## WATER SUPPLY OUTLOOK

Snowpack conditions in eastern Idaho and western Wyoming are well below normal, ranging from 50 to 70% of average. Year to date mountain precipitation for the upper Snake basin has been just a little more than half of normal. Streamflow forecasts reflect these dry conditions, and call for only 70 to 85% of average flows. The good news is reservoir storage: the Snake system is almost 75% full -- 118% of average storage for this time of year! This is more than twice the carryover storage at the same time last year. This storage could be an important water supply buffer if the current dry trends continue. Water users should monitor snowpack conditions carefully during the next three months: conditions could change with over half of the winter yet to come.

UPPER SNAKE RIVER BASIN  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
HENRYS FORK nr Ashton	APR-JUL	315	375	415	76	455	515	544
	APR-SEP	435	500	545	75	590	655	730
HENRYS FORK nr Rexburg	APR-JUL	655	805	905	74	1010	1150	1228
	APR-SEP	805	1040	1150	74	1260	1490	1551
FALLS RIVER nr Squirrel	APR-JUL	210	250	275	76	300	340	364
	APR-SEP	210	295	324	75	355	440	432
TETON ab S Leigh Ck nr Driggs	APR-JUL	81	108	127	83	146	173	153
	APR-SEP	108	142	165	83	188	220	199
TETON nr St. Anthony	APR-JUL	205	265	305	81	345	405	375
	APR-SEP	245	315	360	79	405	475	454
SNAKE nr Moran (1,2)	APR-SEP	380	575	665	77	755	950	869
SALT R abv Reservoir nr Etna	APR-SEP	188	240	300	75	360	415	400
SNAKE nr Heise	APR-JUL	1650	2210	2590	75	2970	3530	3451
	APR-SEP	1740	2580	3020	75	3460	4330	4048
SNAKE R nr Blackfoot	APR-JUL	1880	2780	3250	76	3720	4620	4281
	APR-SEP	2640	3420	3950	75	4480	5260	5268
PORTNEUF at Topaz	MAR-JUL	35	50	60	70	70	85	86
	MAR-SEP	46	64	76	71	88	107	107
AMERICAN FALLS RESV Inflow	APR-JUL	61		1790	58		3500	3066

UPPER SNAKE RIVER BASIN  
Reservoir Storage (1000 AF) - End of December

UPPER SNAKE RIVER BASIN  
Watershed Snowpack Analysis - January 1, 1994

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HENRYS LAKE	90.4	86.0	55.5	74.0	Camas-Beaver Creeks	4	28	35
ISLAND PARK	135.2	124.4	55.8	88.9	Henrys Fork River	9	50	59
GRASSY LAKE	15.2	13.1	12.4	10.5	Teton River	7	56	67
JACKSON LAKE	847.0	619.8	139.0	470.2	Snake above Jackson Lake	10	56	59
PALISADES	1400.0	1238.0	431.5	1035.6	Gros Ventre River	2	79	66
RIRIE	80.5	39.9	20.1	36.4	Hoback River	5	60	51
BLACKFOOT	348.7	180.2	36.7	230.6	Greys River	3	62	54
AMERICAN FALLS	1672.6	1165.6	706.3	1002.4	Salt River	4	65	60
					Snake above Palisades	23	59	57
					Willow Creek	7	54	74
					Blackfoot River	3	62	69
					Portneuf River	2	42	48
					Snake abv American Falls	33	57	59

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

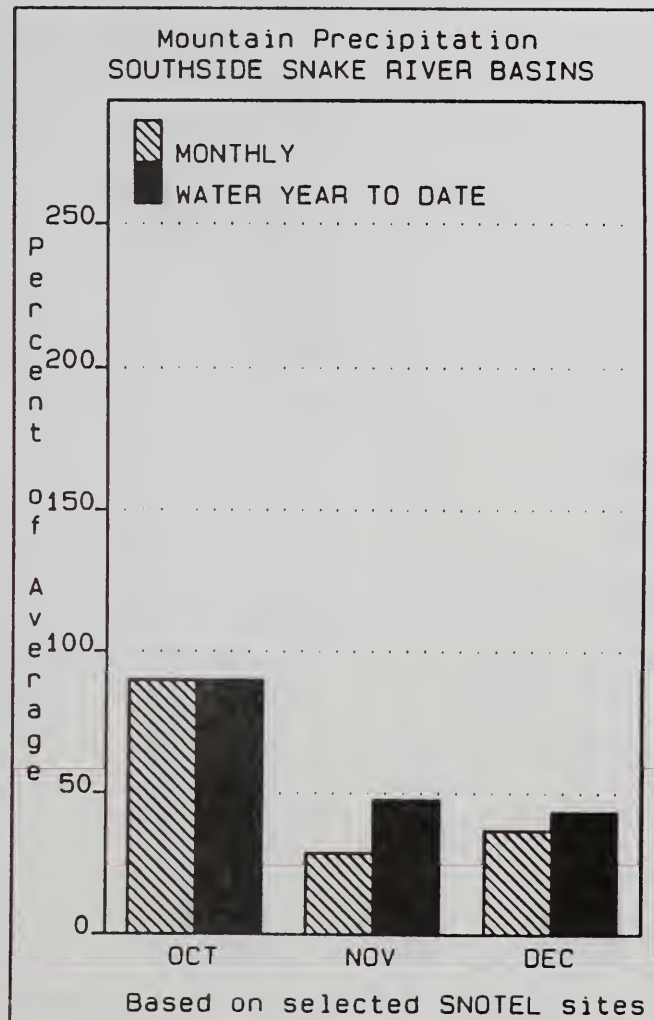
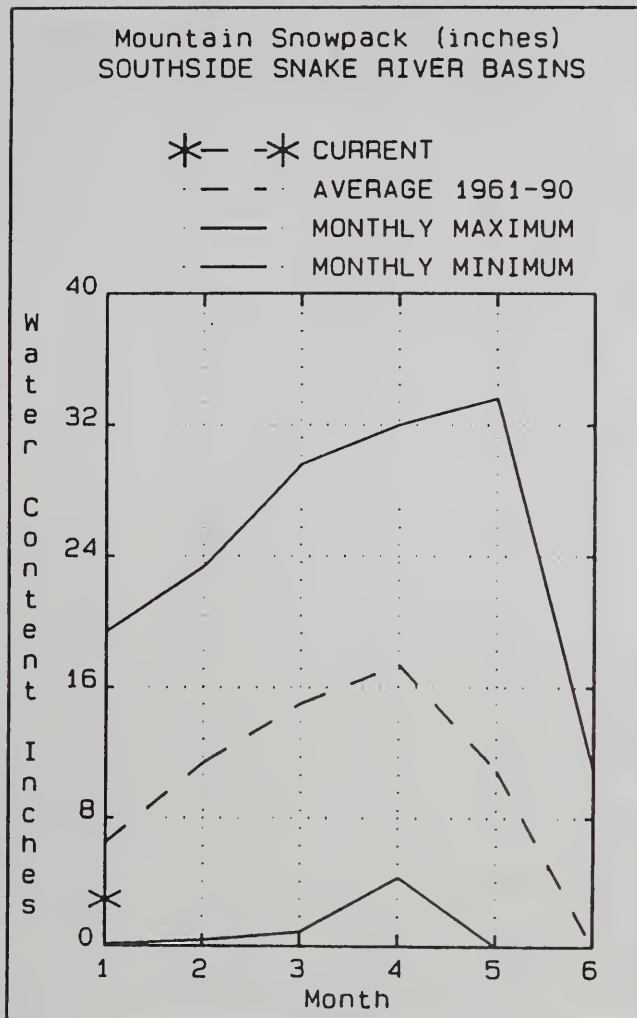
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
(2) - The value is natural flow - actual flow may be affected by upstream water management.



# SOUTHSIDE SNAKE RIVER BASINS

JANUARY 1, 1994



## WATER SUPPLY OUTLOOK

Snowpacks south of the Snake River in Idaho report some of the lowest figures in the state, only 35-50% of average. With most of Idaho's sparse storms tracking to the north, this area has missed most of the season's precipitation. SNOTEL sites in the area report only 44% of normal precipitation for the water year to date. As a result, streamflow forecasts are not very promising, calling for only 50 to 65% of average flows. Reservoir storage varies considerably across the southern edge of the state. Oakley Reservoir reports less than half of normal carryover storage, while Owyhee and Salmon Falls report near average storage for this time of year. The carryover storage in Owyhee Reservoir should lessen the low flow impacts for water users in that area. Elsewhere, water users should be prepared for another water short year. With over half of the snow season remaining, it is possible that conditions will improve.

SOUTHSIDE SNAKE RIVER BASINS  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
=====								
OAKLEY RESERVOIR Inflow	MAR-JUL	8.0	16.0	21	62	26	34	34
	MAR-SEP	8.0	16.0	22	59	28	36	37
SALMON FALLS CK nr San Jacinto	MAR-JUN	15.0	37	52	60	67	89	86
	MAR-JUL	14.0	39	55	60	71	96	91
	MAR-SEP	19.0	42	59	61	76	99	96
BRUNEAU nr Hot Spring	MAR-JUL	47	106	146	62	186	245	235
	MAR-SEP	42	111	153	62	195	265	246
OWYHEE nr Gold Ck (2)	MAR-JUL	2.0	10.0	17.0	47	24	40	35
OWYHEE nr Owyhee (2)	APR-JUL	3.0	20	41	48	62	93	86
OWYHEE nr Rome	FEB-JUL	116	185	325	52	465	670	622
OWYHEE RESERVOIR Inflow (1,2)	FEB-JUL	103	196	340	52	485	800	656
	APR-SEP	70	104	209	50	350	665	418
SUCCOR CK nr Jordan Valley	FEB-JUL	0.2	6.2	11.0	68	15.8	23	16.2
SNAKE RIVER at King Hill	APR-JUL	290		1670	58		3040	2896
SNAKE RIVER near Murphy	APR-JUL	330		1740	58		3130	2980
SNAKE RIVER at Weiser	APR-JUL	109		2900	53		6010	5465
SNAKE RIVER at Hells Canyon Dam	APR-JUL	123		3250	53		6680	6129

SOUTHSIDE SNAKE RIVER BASINS  
Reservoir Storage (1000 AF) - End of December

SOUTHSIDE SNAKE RIVER BASINS  
Watershed Snowpack Analysis - January 1, 1994

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
OAKLEY	77.4	11.0	7.0	23.7	Raft River	1	19	36
SALMON FALLS	182.6	42.0	11.6	44.9	Goose-Trapper Creeks	1	22	34
WILDHORSE RESERVOIR	71.5	33.3	4.3	30.5	Salmon Falls Creek	4	33	52
OWYHEE	715.0	422.8	38.0	421.0	Bruneau River	5	33	50
BROWNLEE	1419.3	1265.5	1304.2	1269.8	Owyhee Basin Total	7	25	39

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

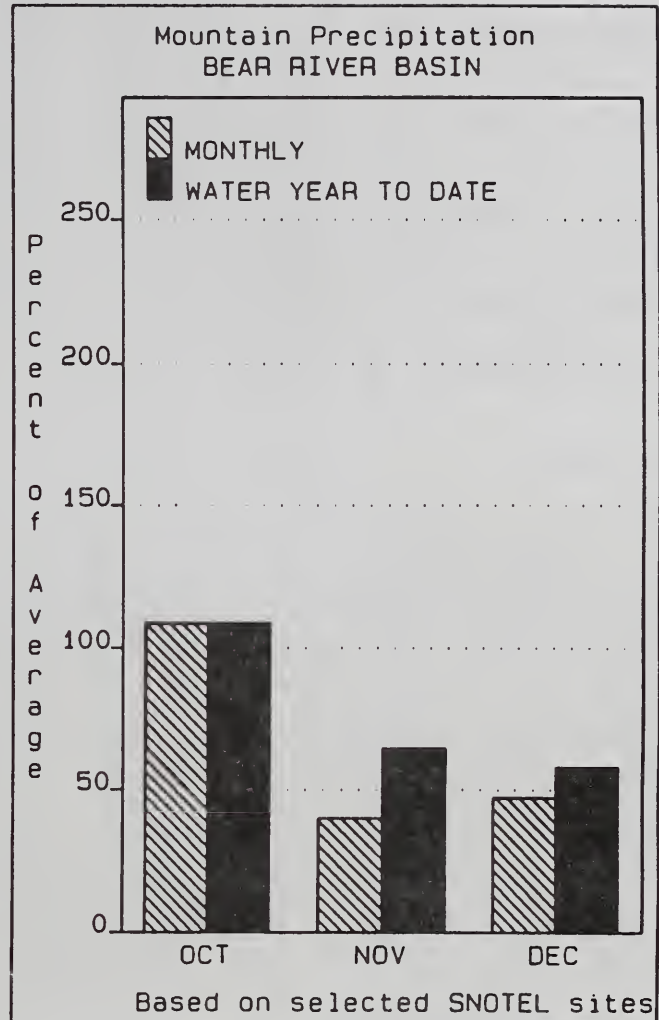
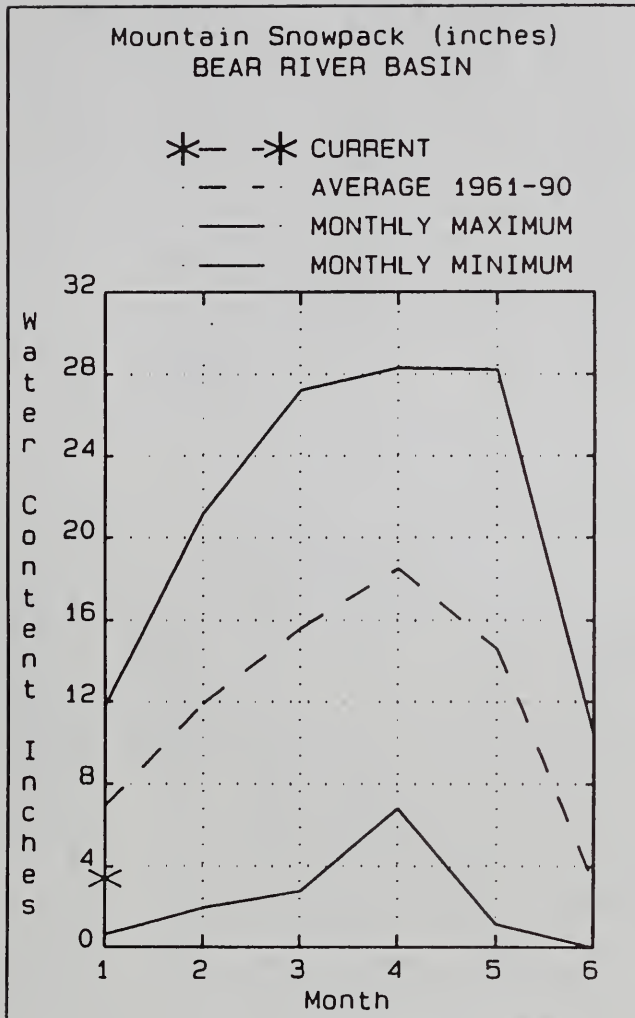
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

# BEAR RIVER BASIN

JANUARY 1, 1994



## WATER SUPPLY OUTLOOK

Snowpacks in the Bear River area are well below normal for January 1, with the Bear River basin above the Wyoming-Idaho line reporting only 49% of average snowpack. Mountain precipitation for the water year has been 58% of average. Streamflow forecasts reflect these low snow conditions and call for flows in the 65 to 75% of average range. Bear Lake is reporting only half of its normal carryover storage. Montpelier Creek Reservoir is currently storing 150% of average. Water users in southeastern Idaho may need to prepare for another low water year. With over half of the winter season yet to come, however, conditions could change. Water users should monitor snowpack conditions carefully over the next few months.



BEAR RIVER BASIN  
Streamflow Forecasts - January 1, 1994

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
=====								
BEAR RIVER nr Randolph	APR-JUL	8.0	53	98	75	143	210	131
SMITHS FORK nr Border, WY	APR-JUL	44	62	75	74	88	106	102
	APR-SEP	50	71	86	73	101	122	118
THOMAS FORK nr Wy-Id Stateline	APR-JUL			25	76			33
	APR-SEP	10.0	20	26	72	33	42	36
BEAR RIVER blw Stewart Dam (2)	APR-SEP	87	160	210	70	260	335	298
MONTPELIER CREEK nr Montpelier	APR-JUL	3.2	6.2	8.2	67	10.2	13.2	12.2
	APR-SEP	4.2	7.4	9.5	67	11.6	14.8	14.2
CUB RIVER nr Preston	APR-JUL	15.0	26	33	70	40	51	47

BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of December					BEAR RIVER BASIN Watershed Snowpack Analysis - January 1, 1994			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
WOODRUFF NARROWS		NO REPORT			Smiths & Thomas Forks	3	50	51
WOODRUFF CREEK	4.0	1.9	1.7	---	Bear River ab WY-ID line	7	46	49
BEAR LAKE	1421.0	519.3	207.0	992.6	Montpelier Creek	1	48	43
MONTPELIER CREEK	4.0	2.4	0.8	1.6	Mink Creek	1	50	57
					Cub River	1	60	69
					Bear River ab ID-UT line	11	49	52
					Malad River	1	54	69

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

# Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report

Streamflow forecasts are projections of runoff volumes that would have occurred naturally without Influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and interbasin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report.

## Panhandle River Basins

KOOTENAI R AT LEONIA, ID  
 + LAKE KOOCANUSA (STORAGE CHANGE)  
 CLARK FORK AT WHITEHORSE RAPIDS, ID  
 + HUNGRY HORSE (STORAGE CHANGE)  
 + FLATHEAD LAKE (STORAGE CHANGE)  
 + NOXON RAPIDS RESV (STORAGE CHANGE)  
 PEND OREILLE LAKE INFLOW, ID  
 + PEND OREILLE R AT NEWPORT, WA  
 + HUNGRY HORSE (STORAGE CHANGE)  
 + FLATHEAD LAKE (STORAGE CHANGE)  
 + NOXON RAPIDS (STORAGE CHANGE)  
 + PEND OREILLE LAKE (STORAGE CHANGE)  
 PRIEST R NR PRIEST R, ID  
 + PRIEST LAKE (STORAGE CHANGE)  
 COEUR D'ALENE R AT ENAVILLE, ID - No Corrections  
 ST. JOE R AT CALDER, ID - No Corrections  
 SPOKANE R NR POST FALLS, ID  
 + COEUR D'ALENE LAKE (STORAGE CHANGE)  
 + RATHDRUM PRAIRIE CANAL AT HEUTTER, ID

## Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID  
 + DWORSHAK RESV (STORAGE CHANGE)  
 - CLEARWATER R AT OROFINO, ID  
 + CLEARWATER R NR PECK, ID  
 CLEARWATER R AT OROFINO, ID - No Corrections  
 CLEARWATER R AT SPALDING, ID  
 + DWORSHAK RESV (STORAGE CHANGE)

## Salmon River Basin

SALMON R AT SALMON, ID - No Corrections  
 SALMON R AT WHITE BIRD, ID - No Corrections

## Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections  
 SF PAYETTE R AT LOWMAN, ID - No Corrections  
 DEADWOOD RESERVOIR INFLOW, ID  
 + DEADWOOD R BLW DEADWOOD RESV NR LOWMAN  
 + DEADWOOD RESV (STORAGE CHANGE)  
 NF PAYETTE R AT CASCADE, ID  
 + CASCADE RESV (STORAGE CHANGE)  
 NF PAYETTE R NR BANKS, ID  
 + CASCADE RESV (STORAGE CHANGE)  
 PAYETTE R NR HORSESHOE BEND, ID  
 + DEADWOOD RESV (STORAGE CHANGE)  
 + CASCADE RESV (STORAGE CHANGE)  
 BOISE R NR TWIN SPRINGS, ID - No Corrections  
 SF BOISE R AT ANDERSON RANCH DAM, ID  
 + ANDERSON RANCH RESV (STORAGE CHANGE)  
 BOISE R NR BOISE, ID  
 + ANDERSON RANCH RESV (STORAGE CHANGE)  
 + ARROWROCK RESV (STORAGE CHANGE)  
 + LUCKY PEAK RESV (STORAGE CHANGE)

## Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections  
 BIG WOOD R NR BELLEVUE, ID - No Corrections  
 BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID  
 + MAGIC RESV (STORAGE CHANGE)  
 LITTLE WOOD R NR CAREY, ID  
 + LITTLE WOOD RESV (STORAGE CHANGE)  
 BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections  
 BIG LOST R BLW MACKAY RESV NR MACKAY, ID  
 + MACKAY RESV (STORAGE CHANGE)  
 LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections  
 LITTLE LOST R NR HOWE, ID (Disac) - No Corrections

## Upper Snake River Basin

HENRYS FORK NR ASHTON, ID  
 + HENRYS LAKE (STORAGE CHANGE)  
 + ISLAND PARK RESV (STORAGE CHANGE)  
 HENRYS FORK NR REXBURG, ID  
 + HENRYS LAKE (STORAGE CHANGE)  
 + ISLAND PARK RESV (STORAGE CHANGE)  
 + DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID  
 + DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID  
 + GRASSY LAKE (STORAGE CHANGE)  
 FALLS R NR SQUIRREL, ID  
 + GRASSY LAKE (STORAGE CHANGE)  
 TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections  
 TETON R NR ST. ANTHONY, ID  
 - CROSS CUT CANAL  
 + SUM OF DIVERSIONS ABV GAGE  
 SNAKE R NR MORAN, WY  
 + JACKSON LAKE (STORAGE CHANGE)  
 PALISADES RESERVOIR INFLOW, ID  
 + SNAKE R NR IRWIN, ID  
 + JACKSON LAKE (STORAGE CHANGE)  
 + PALISADES RESV (STORAGE CHANGE)  
 SNAKE R NR HEISE, ID  
 + JACKSON LAKE (STORAGE CHANGE)  
 + PALISADES RESV (STORAGE CHANGE)  
 SNAKE R NR BLACKFOOT, ID  
 + PALISADES RESV (STORAGE CHANGE)  
 + JACKSON LAKE (STORAGE CHANGE)  
 + DIV FM SNAKE R BTW HEISE AND SHELLEY GAGES  
 + DIV FM SNAKE R BTW SHELLEY AND BLACKFT, ID  
 PORTNEUF R AT TOPAZ, ID - No Corrections  
 AMERICAN FALLS RESERVOIR INFLOW, ID  
 + ALL CORRECT MADE FOR HENRYS FK NR REXBURG, ID  
 + JACKSON LAKE (STORAGE CHANGE)  
 + PALISADES RESV (STORAGE CHANGE)  
 + DIV FM SNAKE R BTW HEISE AND SHELLEY GAGES  
 + DIV FM SNAKE R BTW SHELLEY AND BLACKFT GAGES



## Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID  
 + GOOSE CK ABV TRAPPER CK NR OAKLEY, ID  
 + TRAPPER CK NR OAKLEY, ID  
 SALMON FALLS CK NR SAN JACINTO, NV - No Corrections  
 BRUNEAU R NR HOT SPRINGS, ID - No Corrections  
 OWYHEE R NR GOLD CK, NV  
 + WILDHORSE RESV (STORAGE CHANGE)  
 OWYHEE R NR OWYHEE, NV  
 + WILDHORSE RESV (STORAGE CHANGE)  
 OWYHEE R NR ROME, OR  
 + WILDHORSE RESV (STORAGE CHANGE)  
 + JORDAN VALLEY RESV (STORAGE CHANGE)  
 OWYHEE RESERVOIR INFLOW, OR  
 + OWYHEE R BLW OWYHEE DAM, OR  
 + OWYHEE RESV (STORAGE CHANGE)  
 + DIV TO NORTH AND SOUTH CANALS  
 SUCCOR CK NR JORDAN VALLEY, OR - No Corrections  
 SNAKE R - KING HILL, ID - No Corrections  
 SNAKE R NR MURPHY, ID - No Corrections  
 SNAKE R AT WEISER, ID - No Corrections  
 SNAKE R AT HELLS CANYON DAM, ID  
 + BROWNLEE RESV (STORAGE CHANGE)

## Bear River Basin

BEAR R NR RANDOLPH, UT  
 + SULPHUR CK RESV (STORAGE CHANGE)  
 + CHAPMAN CANAL DIVERSION  
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)  
 SMITHS FORK NR BORDER, WY - No Corrections  
 THOMAS FORK NR WY-ID STATELINE - No Corrections  
 BEAR R AT HARER, ID (Disc.)  
 + SULPHUR CK RESV (STORAGE CHANGE)  
 + CHAPMAN CANAL DIVERSION  
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)  
 BEAR R BLW STEWART DAM, ID  
 + SULPHUR CK RESV (STORAGE CHANGE)  
 + CHAPMAN CANAL DIVERSION  
 + WOODRUFF NARROWS RESV (STORAGE CHANGE)  
 + DINGLE INLET CANAL  
 + RAINBOW INLET CANAL  
 MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID  
 + MONTPELIER CK RESV (STORAGE CHANGE)  
 CUB R NR PRESTON, ID - No Corrections

**RESERVOIR CAPACITY DEFINITIONS** - Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. The table below lists these volumes for each reservoir in this report, and defines the storage volumes that SCS uses when reporting capacity and current reservoir storage. In most cases, SCS reports usable storage, which includes active and inactive storage.

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	SCS CAPACITY	SCS FIGURES INCLUDE
<b>PANHANDLE REGION</b>						
HUNGRIY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD + INACTIVE + ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE + ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD + INACTIVE + ACTIVE
<b>CLEARWATER BASIN</b>						
DWORSHAK	--	1452.00	2007.00	--	3459.0	INACTIVE + ACTIVE
<b>WEISER/BOISE/PAYETTE BASINS</b>						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	50.00	653.20	--	703.2	INACTIVE + ACTIVE
DEADWOOD	1.50	--	161.90	--	161.9	ACTIVE
ANDERSON RANCH	29.00	41.00	423.18	--	464.2	INACTIVE + ACTIVE
ARROWROCK	--	--	286.60	--	286.6	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE + ACTIVE
LAKE LOWELL	--	8.00	169.10	--	177.1	INACTIVE + ACTIVE
<b>WOOD/LOST BASINS</b>						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
<b>UPPER SNAKE BASIN</b>						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE + SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD + INACTIVE + ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
<b>SOUTHSIDE SNAKE BASINS</b>						
OAKLEY	--	--	77.40	--	77.4	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE + ACTIVE
<b>BEAR RIVER BASIN</b>						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD + ACTIVE



## Interpreting Streamflow Forecasts

### Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

**Most Probable (50 Percent Chance of Exceeding) Forecast.** This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

### To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

**70 Percent Chance of Exceeding Forecast.** There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

**90 Percent Chance of Exceeding Forecast.** There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

### To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

**30 Percent Chance of Exceeding Forecast.** There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

**10 Percent Chance of Exceeding Forecast.** There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

### Using the forecasts - an example

**Using the Most Probable Forecast.** Using the example forecasts shown below, users can reasonably expect 36,000 acre-foot to flow past the gaging station on the Mary's River near Deeth between March 1 and July 31.

**Using the Higher Exceedance Forecasts.** If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-foot (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-foot (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

**Using the Lower Exceedance Forecasts.** If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-foot was more than they would like to risk, they might plan on receiving 52,000 acre-foot (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN									
FORECAST POINT	FORECAST PERIOD	STREAMFLOW FORECASTS							
		← DRIER				FUTURE CONDITIONS			
		90 % (1000AF)(1000AF)	70 % (1000AF)(1000AF)	50 % (Most Probable) (1000AF) (% AVG)	30 % (1000AF)	10 % (1000AF)	25 YR (1000AF)	→ WETTER	
MARY'S RIVER nr Deeth	MAR-JUL APR-JUL	5.0 8.0	20.0 17.0	36 31	77 74	52 45	76 67	47 42	
LAMOILLE CREEK nr Lamolle	MAR-JUL APR-JUL	6.0 4.0	16.0 15.0	24 22	79 75	32 30	43 41	31 30	
NF HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59	

For more information concerning streamflow forecasting ask your local SCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts".



AN EQUAL OPPORTUNITY EMPLOYER



USDA, Soil Conservation Service  
3244 Elder Street, Room 124  
Boise ID 83705-4711

-----  
OFFICIAL BUSINESS

NATIONAL AGRICULTURAL LIBRARY USDA 612345678  
SERIAL RECORDS ROOM 002  
BELTSVILLE MD 20705

---

*Issued by*

**Galen S. Bridge**  
Acting Chief  
Soil Conservation Service  
U.S. Department of Agriculture

*Released by*

**Paul H. Calverley**  
State Conservationist  
Soil Conservation Service  
Boise, Idaho

*Prepared by*

**Peter L. Palmer**, Data Collection Office Supervisor  
**Philip S. Morrissey**, Hydrologist  
**Ronald T. Abramovich**, Water Supply Specialist  
**Susan C. Becker**, Hydrologist  
**Gini Broyles**, Statistical Assistant  
**Bill J. Patterson**, Electronics Technician  
**Bill F. Hartman**, Hydrologic Technician



SOIL CONSERVATION SERVICE

---

In addition to basin outlook reports, a Water Supply Forecast for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.